Study R12 – Projected Recreation Use

Oroville Facilities Relicensing
FERC Project 2100

Presented to the Oroville Relicensing Recreation and Socioeconomics Work Group

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Study Objective

- To forecast the amount of potential recreation use in the study area for various intervals throughout the anticipated term of the new license for the Oroville Facilities

Relation to Other Studies

- Provides information used in Study R-8 to assess carrying capacity of recreation facilities
- One input among many into Needs Analysis (R-17)

Data Sources

Among many reports/data sources reviewed the primary data sources were:

- DFG hunting & fishing license data
- DPR 1993 & 1998 Public Opinions & Attitudes on Outdoor Recreation
- Existing recreation use data (R-9)
- Regional recreation information (R-14)
- Expert judgment
- Statistical demand forecasting results
- Cordell 1999 projections by activity

Methods

- **Projected Use by Activity**
  - Reviewed projected increases in populations of top visitor-origin counties, expert judgment on future trends in recreation activities, past activity participation, and latent demand
  - Developed preliminary annual demand percentages for each activity
  - Grouped percentages into ranges

Methods (continued)

- Each group assigned a percentage which best represented that group's expected rate of future growth (demand)
- Demand categories included: in decline, low demand, moderate demand, and high demand

Methods (continued)

- **In decline activities** (-0.4%)
  - hunting
- **Low demand activities** (0.7%)
  - bank & boat fishing, off-road driving, target shooting
- **Moderate demand activities** (1.1%)
  - camping, picnicking, swimming, biking, horseback riding
- **High demand activities** (1.8%)
  - boating, sightseeing, hiking, walking

Methods (continued)

- Projected use calculated by:
  - Multiplying projected annual percent change in demand for each activity by the number of baseline RDs
  - Compounded over 48 years (2002 to 2050)

Methods (continued)

- Lake Oroville Projections
  - Statistical model showed visitation at Lake Oroville has a relationship to reservoir level
  - Used model to compare actual 2002 visitation to visitation using a 25 year average reservoir elevation
  - Model showed a 9.8% difference in visitation
  - Adjusted baseline RDs at Lake Oroville sites upwards by 9.8% to reflect participation levels typical of average water conditions

RESULTS

Background Data

- Report includes a brief summary of key results from R9 – Existing Recreation Use
- Variables affecting future rec use:
- Study area variables:
  - Latent demand for activities in the study area: notably for beach access/swimming areas
  - Additional facilities or special events: Study R-14

Background Data (continued)

- **Regional Variables**
  - Changes in population: all of top 10 visitor-origin counties expected to grow by generally 10% per decade
  - Regional economy: low household income, high proportion of retirees
  - Demand for recreation setting type: Californians prefer less-developed recreation settings
  - Demand for activities:
    - High latent demand & public funding support for walking, camping in developed sites, trail hiking, & picnicking
    - Fishing & hunting license sales have decreased by 16 & 14% over last 6 years respectively
  - Gaps between regional activity & facility supply and demand: possible regional latent demand for camping due to few plans for additional camping facilities at regional lakes

Future Trends in Outdoor Recreation

- Based on expert judgment
- Example trends:
  - Non-consumptive recreation activities (wildlife viewing, wildlife photography) have increased in last decade
  - Demand for adventure/high risk activities is high, expected to increase
  - Population is aging, may shift activity preferences

Description of Quantitative Projections

- Straightlined: same percent growth used every year
- Unconstrained: no carrying capacity constraints, no on-site limitations
- Projections should not be construed as predictions of actual use levels; rather, reflect recreation demand that may or may not ultimately result in use

Projections for Entire Study Area
(including 3 sites outside FERC boundary)

- Estimated 3.5 million RDs by 2050
- Increase of 1.77 million RDs over 48 years, a 103% increase from 2002
- Use to remain concentrated at Lake Oroville; over 50% of total use
- OWA forecast to receive 2nd largest amount of use; 507,000 RDs by 2050
- Fish Hatchery remains 3rd largest

Lake Oroville Projections

- More than double visits to 2 million RDs by 2050
- Sites with large amounts of boating & sightseeing increase the most
- Oroville Dam become site contributing most to use, followed by Bidwell BR/DUA/Marina, Lime Saddle BR/DUA/Marina, & Visitors Center

Div. Pool, Forebay, and Afterbay Projections

- **Diversion Pool**
  - DUA has relatively moderate use (26,000 RDs by 2050)
  - TA's remain low use (3,800 to 7,300 RDS by 2050)
- **Thermalito Forebay**
  - 75% increase in total use for area
  - Two Forebay sites projected to have use levels similar to the 4 OWA sites, between 84,000 & 150,000 RDs by 2050
- **Thermalito Afterbay**
  - 98% increase in total use for area
  - Wilbur Rd BR projected to double but will be relatively moderate use level with 27,000 RDs by 2050

OWA Projections

- 59% increase in total use for area
- Less increase than other areas due to lower amounts of high-demand activities like boating & sightseeing
- West Levee Rd remains most used site with 148,000 RDs by 2050
- Outlet becomes second most used site within the next 8 years due to more sightseeing & boating use than East Levee Rd

Other Sites

- Feather River Fish Hatchery
  - more than double by 2050 to an estimated 367,000 RDs due to large amount of sightseeing use
- Dispersed use
  - projected to increase slightly, remain at a moderate level
- Sites outside of the FERC boundary
  - Riverbend Park increase most (73%)
  - Clay Pit SVRA & Rabe Rd Shooting Range projected to increase 40% by 2050
  - All 3 sites projected to remain relatively moderate-use sites

Conclusions

- All sites projected to increase in use, especially those with substantial high-growth activities
- Lake Oroville expected to remain dominant destination by contributing over 50% of use within study area
- Considering past trend information, showing Lake Oroville visitation to be relatively constant, these projections may somewhat overstate future use
- Unknown & unquantifiable variables may affect future use therefore monitoring is crucial to updating projections
- Spatial, facility, social & ecological constraints will be applied to use projections in Study R8 – Carrying Capacity